

ABSTRACT

5 A vapor fuel injection system including an air pump having
dedicated air cylinders assigned to individual engine cylinders and adapted to
produce timed charges of pre-heated air adapted to push timed charges of fuel
through a heat exchanger where the timed charges of fuel are converted into
metered charges of fuel vapor. The charges of fuel vapor are subsequently pushed
into and through fuel vapor delivery nozzles defined in the respective guide bodies
of respective intake valve assemblies. After exiting the guide body of said valve
10 assemblies, the timed charges of fuel vapor mix with intake manifold air and then
are fed directly into the engine cylinders for combustion.

15